The ratio of x_bj for He4 to d2

with the cut of 3*sigma of the CT peak and estimate the background with the fit of background and the peak. The background are mostly dominate in the low momentum region where the signal subtract background is strongly subjected to the fluctuation of the large number subtraction especially for the deuteron data where we have very low statistic.



If we consider only high momentum section as this region has very low background (above 600 MeV/c) and less subject to the signal – background stat. The reason is still due to the d2 limited data.





The distribution in x_bj with scale of charge, target length and density is as follow.

With the restrain on the momentum range (i.e. at p_tg>0.6 GeV/c) where the background is very low. **Even without background subtracted** the flat region can be seen. (right sides figures in blue) With background subtracted, the flat region can still be seen. (left figures in green) The ratio is quite flat



I'm working on the correction due to the acceptance which is quite similar but not exact value from difference kinematic/target. Next to do is combine the data from C12.